

Montana.—2d, 4th, 10th, 14th, 15th, 17th, 22d, 24th, 25th, 27th, 28th, 30th.

Nebraska.—1st to 4th, 24th, 25th, 26th, 28th, 29th.

Nevada.—1st, 2d, 3d, 6th, 7th, 8th, 12th, 13th.

New Hampshire.—Mount Washington, 2d, 6th, 7th, 8th, 10th, 12th, 28th, 29th; at other places in the state on the 3d, 5th to 8th.

New Jersey.—4th, 5th.

New Mexico.—Gallinas Spring, 4th; Santa Fé, 4th, 8th, 12th; Fort Wingate, 8th, 13th, 19th, 24th; Fort Union, 12th.

New York.—1st to 8th, 19th, 20th.

North Carolina.—Fort Macon, 30th.

Ohio.—1st to 7th.

Oregon.—1st, 2d, 3d, 9th to 13th, 16th, 17th, 29th, 30th.

Pennsylvania.—1st to 7th.

Rhode Island.—3d, 4th, 5th.

Tennessee.—Chattanooga and Ashwood, 5th; Knoxville, 5th, 6th; Nashville, 5th, 7th.

Texas.—Fort Elliott, 4th.

Utah.—Salt Lake City, 2d, 3d, 4th, 8th, 14th, 18th.

Vermont.—6th, 7th, 8th.

Virginia.—Norfolk, 3d; Lynchburg, 7th.

Washington Territory.—12th, 29th, 30th.

West Virginia.—Parkersburg, 2d, 3d, 5th, 6th.

Wisconsin.—1st, 2d.

Wyoming.—1st to 5th, 8th, 11th, 13th, 17th, 18th, 19th, 24th, 26th, 27th.

Snow storms of unusual severity for this month, were reported, as follows:

East Saginaw, Saginaw county, Michigan: a very heavy snow storm, accompanied by high wind, occurred on the 6th.

Port Huron, Saint Clair county, Michigan: the severest snow and wind storm of many years set in at three o'clock on the morning of the 6th and rapidly grew worse; a foot of snow fell and drifted badly; business was almost entirely suspended and trains were unable to leave the town.

Lansing, Michigan: the worst snow storm of the year visited this place on the 6th; railroad traffic was seriously impeded, and all trains were late. The wind blew a gale all day, doing much damage to fences, smoke-stacks, and other property.

Hillsdale, Hillsdale county, Michigan: on the 6th about two feet of snow fell and drifted badly; country travel was suspended; all trains were delayed.

Ann Arbor, Washtenaw county, Michigan: the storm reached here early on the morning of the 6th; the snowfall was heavy and, being accompanied by a gale having a maximum velocity of thirty-five miles per hour, drifted badly, in some places six feet deep.

Pontiac, Oakland county, Michigan: the worst "blizzard" for years prevailed during the 6th, the snow being five and six feet deep on the main street; trains were all behind time.

Adrian, Lenawee county, Michigan: a strong north wind, with accompanying snow, set in on the night of the 5th and continued without intermission during the 6th; the storm was the severest seen here in ten years, and was notable because it was so late in the season and followed an unusually mild and open winter; business and travel were suspended, owing to high drifts.

Detroit, Michigan: the snow storm of the 6th was undoubtedly the worst experienced in this state for many years. Early in the morning several attempts were made to run street cars, but the snow drifted so rapidly that it became impossible to keep the tracks clear, and the cars snowed up at various points on nearly all the lines in the city. At ten o'clock fourteen inches had fallen on a level. The entire southern part of the state was covered with snow.

Cincinnati, Ohio: a heavy snow storm set in on the afternoon of the 5th and continued during the 6th; eight inches of snow fell.

Cleveland, Ohio: a raw north wind on the 5th brought with it a storm of snow as evening set in, which continued during the 6th, impeding travel on street car lines and delaying telegraphic communication.

Toledo, Ohio: a heavy snow storm set in just before midnight of the 5th; snow to the depth of ten inches fell, and the heavy gale caused much drifting; the streets were almost impassable, and street car lines were frequently blocked.

Coshocton, Coshocton county, Ohio: a heavy snow storm prevailed almost incessantly for two days—the 5th and 6th. The snow rapidly disappeared, causing the rivers to rise fast; fears were entertained of another flood like that of 1884.

Pittsburg, Pennsylvania: rain and snow fell without interruption for twenty-four hours on the 6th, covering the sidewalks with sleet and interrupting all kinds of travel.

Toronto, Canada: the greatest snow storm within the recollection of the inhabitants occurred here on the 6th.

Oakville, Ontario, Canada: the severest storm of snow and wind ever experienced here occurred on the 6th; the light-house, several piers, and numerous boat houses were swept away; the loss will reach thousands of dollars.

LARGEST MONTHLY SNOWFALLS.

[Expressed in inches and tenths.]

Monthly snowfalls of two inches or more were reported from the various states and territories during the month, as follows:

Arizona.—Prescott, 7.5.

California.—Susanville, 5.5; Fort Bidwell, 3.9.

Colorado.—Pike's Peak, 61.2; West Las Animas, 3.5; Denver, 2.

Connecticut.—Norfolk, 4; Collinsville, 3.2; New London, 2.8; Hartford, 2.5; North Colebrook, 2.3; New Haven, 2.1.

Dakota.—Deadwood, 7.6; Webster, 4.4.

Illinois.—Windsor, 5.2; Rockford, 5.

Indiana.—Farmland, 17.5; Collinsville, 12.5; La Grange, Fort Wayne, and Sunman, 12; Greencastle, 11.1; Butlerville and Franklin, 11; Mauzy and Princeton, 9; Blue Lick, 8.5; Worthington, 8; Knightstown, 7.8; Brookville, 7.5; Indianapolis, 6.9; Logansport and Greenfield, 6.5; Spiceland, 5.6; Vevay, 5.1; Columbus and Marion, 5; Delphi, 4.5; Lafayette, 2.8; Marengo, 2.5.

Iowa.—Keokuk, 2.3.

Kansas.—Westmoreland and Wakefield, 7; Concordia, 5.2; Manhattan a and Manhattan b, 5; Atchison, 4; Topeka, Salina, Wyandotte, West Leavenworth, and Sterling, 3.

Kentucky.—Frankfort, 5.8; Louisville, 2.2.

Maine.—Bridgeton, 6; Gardiner and Mayfield, 3; Solon, 2.5; Buckfield and Belfast, 2.

Maryland.—Cumberland, 2.

Massachusetts.—Fall River, Dudley, and Gilbertville, 3; Fitchburg, 2.2.

Michigan.—Detroit, 26.3; Hudson, 15.5; Thorville, 15; Port Huron, 13; Birmingham, 6 to 8; Lansing, 3.5; Marquette, 3.1; Traverse City and Harrisville, 3; Kalamazoo and Pentwater, 2.

Minnesota.—Grand Forks, 3; Saint Vincent, 2.3.

Missouri.—Saint Louis, 6.5; Central College, 5.2.

Montana.—Fort Benton, 7; Fort Shaw, 5.5; Fort Assiniboine, 4.7.

Nebraska.—North Platte, 14.8; Hay Springs, 3.5; Stromsburg, 3; Valentine, 2.6; Crete, 2.3; Marquette and Central City, 2.

Nevada.—Winnemucca, 2.2; Halleck, 2.

New Brunswick.—Parker's Ridge, 6.

New Hampshire.—Mount Washington, 14.9; Berlin Mills, 5.2; Walpole, 2.8; Antrim and Littleton, 2.

New Jersey.—Beverly, 4; Princeton, 3; Moorestown, 2.2.

New York.—Buffalo, 11.4; Rochester, 7; Humphrey, 5.2; Palermo, 4.5; Ithaca, 3.5; Mountville, 3; Factoryville, 2.4; Cooperstown, 2.

North Carolina.—Kitty Hawk, 2.8.

Ohio.—Jacksonborough, 22; College Hill, 19.5; Columbus, 16.9; Wauseon, 16.5; Sandusky, 14; Yellow Springs, 13.8; Ruggles and West Milton, 13; Napoleon, 12 to 15; North Lewisburg a, 13; North Lewisburg b, 12; Cleveland, 11.5; Hiram, 11; Tiffin, 10.8 to 15; Westerville, 10; Toledo, 9.8; Fostoria, 9.5; Garrettsville, 8.8; Cincinnati, 5.5; Cleveland, .4

Pennsylvania.—Grampian Hills, 9; Pittsburg, 5.4; Troy, 5; Catawissa, 4; Wellsborough, 3.8; Erie, 3.4; Fallsington, 2.8.
Utah.—Salt Lake City, 3.2.

Vermont.—Stowe, 20; Marlborough, 8.6; Vernon, 8.4; Brattleborough, 7; Townshend, 6.2; Chelsea and Jacksonville, 5; Lunenburg, 4; Dorset, 3.9; Newport, Strafford, Burlington, Poultney, and Windsor, 3.

Virginia.—Marion, 2.5.

West Virginia.—Parkersburg, 8; Helvetia, 6.

Wisconsin.—Milwaukee, 2.5.

Wyoming.—Fort Bridger, 10.8.

SNOW ON GROUND AT END OF MONTH.

The only station reporting snow on the ground at the end of month was Pike's Peak, Colorado, where snow remained to a depth of 20 inches.

HAIL.

Hail was reported to have fallen in the various states and territories as follows:

Arizona.—Fort Verde, 13th.

Arkansas.—Fort Smith, 25th.

California.—Sacramento and Susanville, 10th; Nicholas, 10th, 13th; Sacramento, 12th; Red Bluff and Princeton, 13th.

Colorado.—Colorado Springs, 12th; Fort Lewis, 19th, 23d; Pueblo and West Las Animas, 21st; Montrose, 21st, 25th.

Connecticut.—North Colebrook, 13th.

Dakota.—Bismarck and Fort Totten, 14th.

Idaho.—Boisé City, 17th; Fort Coeur d'Alene, 28th.

Illinois.—Cairo and Charleston, 26th.

Indiana.—Vevay, 1st, 3d; Jeffersonville, 2d; Knightstown, 15th, Sunman, 20th.

Indian Territory.—Fort Reno, 9th.

Iowa.—Oskaloosa a, 14th; Oskaloosa b, 14th, 15th; Muscatine and Cresco, 16th; Des Moines, 17th; Logan, 30th.

Kansas.—Ninnescah, 2d; Yates Centre, 2d, 23d; Allison, 12th; Wyandotte, 13th, 15th; Westmoreland and Fort Scott, 14th; Independence, 14th, 25th, 28th; Emporia, Topeka a and Topeka b, 15th; Salina, 22d.

Kentucky.—Louisville, 15th.

Louisiana.—Shreveport, 17th, 27th.

Maine.—Gardiner and Buckfield, 6th; Cornish, 6th, 7th.

Michigan.—Fort Brady, 22d.

Minnesota.—Saint Paul and Fort Snelling, 14th; Saint Vincent, 21st; Duluth, 26th.

Missouri.—Conception, 15th.

Montana.—Fort Custer, 30th.

Nebraska.—Crete, 9th, 16th; Omaha, 14th; Fairbury, Fort Robinson, and De Soto, 28th.

New Hampshire.—Mount Washington, 19th.

New Jersey.—Clayton, 4th; Readington, 12th, 24th.

New Mexico.—Fort Union, 11th, 20th, 24th; Fort Wingate, 12th, 19th, 24th; Santa Fé, 21st; Gallinas Spring, 24th.

New York.—Setauket, 3d, 5th; Factoryville, 5th; Plattsburg Barracks, 6th; Mountainville, 10th; Madison Barracks, 29th.

North Carolina.—Wilmington, Charlotte, Lenoir, and Raleigh, 30th.

Ohio.—Jacksonborough, 20th; Hiram, 24th; Napoleon, 26th.

Oregon.—Ashland, 2d; Roseburg, 12th, 17th; Portland, 16th; East Portland, 16th, 28th, 29th; Astoria, 16th, 29th, 30th; Albany, 16th, 30th; Fort Klamath, 29th; Bandon, 30th.

Pennsylvania.—Dyberry, 5th, 20th, 29th; Fallsington, 6th; Drifton and Philipsburg, 20th; East Brook, 24th.

South Carolina.—Spartanburg, 3d, 4th, 21st; Stateburg, 30th.

Tennessee.—Nashville, 3d.

Texas.—Silver Falls, 11th, 12th, 22d; Fort Elliott, 23d.

Virginia.—Fort Myer, 6th.

Washington Territory.—Olympia, 13th; Spokane Falls, 15th; Bainbridge Island, 16th, 17th; Neah Bay, 16th, 17th, 29th; Tacoma, 29th; Pleasant Grove, 30th.

West Virginia.—Parkersburg, 20th.

Wisconsin.—La Crosse, 16th.

Wyoming.—Fort Fred Steele, 23d.

Table of excessive and greatest monthly precipitation for April, 1886.

Station.	Specially heavy.		Largest monthly.	Station.	Specially heavy.		Largest monthly.
	Date.	Amt.			Date.	Amt.	
Alabama.				Louisiana—Con.			
Evergreen.....	17	4.52	10.30	Cheneyville *.....	16, 17	2.08	
Do.....	26, 27, 28	4.85		Do *.....	27, 28	3.70	
Bermuda.....	17	3.70	9.10	Amito City *.....	26, 27, 28	7.55	
Do.....	26, 27, 28	3.80		Alexandria *.....	16, 17	2.61	
Carrollton.....	26, 27, 28	4.23	8.07	Do *.....	27	3.14	
Grove Hill.....	17	2.00	7.75	Maine.			
Do.....	27, 28	3.70		Cornish.....	7	2.25	
Montgomery.....	27, 28	4.08	7.38	Portland.....	6	2.06	
Marion.....	26, 27, 28	3.55	7.37	Massachusetts.			
Mt. Vernon B'ks.....	26, 27	3.84	7.11	Milton.....	6, 7	3.44	
Greensborough.....	26, 27, 28	2.83	6.97	Michigan.			
Mount Willing.....	26, 27, 28	3.75	6.25	Detroit.....	6	2.41	
Newton.....	4, 5	2.00	6.25	Minnesota.			
Do.....	26, 27, 28	4.25		Northfield.....	14	2.95	7.31
Selma.....	27, 28	3.00		Duluth.....	14, 15	2.43	
Trinity.....	4, 5	2.20		Mississippi.			
Prattville.....	29	2.00		Vicksburg.....	26, 27	3.97	9.99
Birmingham.....	5	2.01		Brookhaven *.....	25 to 28	8.87	
Do.....	28, 29	2.06		Batesville *.....	26, 27	2.55	
Livingston *.....	26, 27, 28	3.98		Grenada *.....	17	2.06	
Fort Deposit *.....	28	2.09		Jackson *.....	25 to 28	6.60	
Mobile.....	26, 27, 28	3.85		Edwards *.....	25 to 28	7.56	
Eastman *.....	28	2.00		Lake *.....	25 to 28	6.06	
Pine Apple *.....	17, 18	3.27		Waynesborough *.....	26, 27, 28	7.44	
Do *.....	26, 27, 28	4.71		Port Gibson *.....	25 to 28	6.56	
Centre.....	4, 5	2.00		Oxford *.....	25, 26	2.04	
Greenville *.....	18	2.25		Natchez *.....	16	2.84	
Do *.....	27, 28	2.45		Do *.....	27, 28	6.07	
Fayette.....	26, 27, 28	3.15		Okolona *.....	28	2.00	
Selma *.....	26, 27, 28	3.15		Meridian *.....	26, 27, 28	4.42	
Gadsden.....	4, 5	2.40		Macon *.....	17	2.00	
Arkansas.				Do *.....	26, 27, 28	3.80	
Fort Smith.....	25	2.32	7.29	Holly Springs *.....	17	2.20	
Lead Hill.....	25	2.45		Hazlehurst *.....	27, 28	8.03	
California.				Columbus *.....	10, 17	2.51	
Fort Gaston.....	15, 16	3.99	9.23	New Hampshire.			
Hydesville.....	1, 2	2.13	9.15	Lake Village.....	5, 6	2.10	
Do.....	15, 16	2.31		Wolfborough.....	5, 6	2.05	
San Rafael.....	10, 11	2.58	8.30	New Jersey.			
Santa Cruz.....			7.60	Egg Harbor City.....	4, 5, 6	8.45	9.20
Aptos.....			7.10	Dover.....	6	2.06	
Murietta.....	11	2.44		Paterson.....	6	2.84	
Presidio of San Francisco.....	9, 10	2.76		Boverly.....	5, 6	2.92	
Colorado.				South Orange.....	6	2.65	
Pike's Peak.....	19, 20	3.12	6.33	Sandy Hook.....	5, 6	3.64	
Salida.....	18, 19, 20	3.07		New Mexico.			
Montrose.....	19, 20	2.06		Fort Union.....	19, 20	3.00	
Colorado Springs.....	18 to 21	4.23		New York.			
Connecticut.				Setauket.....	6	2.86	
Hartford.....	5, 6	2.32		Penn Yan.....	6	2.89	
Dakota.				Auburn.....	6	2.50	
Webster.....	26, 27	3.44	7.72	Fort Columbus.....	4, 5, 6	2.98	
Do.....	29	2.69		New York.....	6	3.49	
Dandwood.....	22, 23, 24	4.67	6.72	Albany.....	6	2.02	
Huron.....	25, 26	2.54		Oswego.....	6	2.19	
Yankton.....	28	2.14		Rochester.....	6, 7	2.22	
Vermillion.....	25, 26	2.00		North Carolina.			
Dist. of Columbia.				Chapel Hill.....	29	2.62	
Kendall Green.....	5	3.25		Kitty Hawk.....	6	2.38	
Receiving Reservoir.....	5, 6	2.20		Raleigh *.....	29	2.06	
Distrib'g Reservoir.....	1	2.40		Goldborough *.....	28, 29	2.52	
Do.....	5, 6	2.41		Ohio.			
Florida.				Napoleon.....	5, 6	2.00	
Merritt's Island.....	18	3.05	8.90	Wauson.....	6	2.15	
Do.....	28, 29	3.00		Washington C.H.....	12	3.80	
Pensacola.....	17, 18	2.48	6.83	Weymouth.....	7	2.00	
Sanford.....	17, 18	2.48	6.60	Pennsylvania.			
Do.....	28, 29	2.88		Wellsborough.....	4 to 7	9.15	10.77
Archer.....	28	2.18		Bethlehem.....	5, 6	2.22	
Fort Meade.....	29	2.00		Franklin.....	6	2.74	
Georgia.				West Chester.....	6	2.05	
Athens.....	28, 29	2.75		Pittsburg.....	5, 6	2.54	
Smithville *.....	28	2.41		Fallsburg.....	5, 6	2.52	
Fort Gaines *.....	28	2.88		Rhode Island.			
Illinois.				Block Island.....	6	2.45	
Cairo.....	2, 3	2.48	6.64	Tennessee.			
Do.....	16, 17	2.48		Greenville.....	4, 5, 6	3.15	6.25
Indiana.				Do.....	28, 29, 30	3.30	
Laconia.....	11, 12	2.23		Huntingdon.....	16, 17	2.07	
Kansas.				Milan.....	16, 17	2.25	
Manhattan a.....	10	2.70		Chattanooga.....	4, 5	2.68	
Manhattan b.....	10	2.42		Knoxville.....	4, 5	3.29	
Independence.....	14, 15	2.77		Trenton.....	16, 17	2.39	
Kentucky.				Rogersville.....	5	2.20	
Frankfort.....	12	2.95		Jonesborough.....	5, 6	2.32	
Richmond.....	12	2.25		Andersonville.....	5	2.21	
Louisiana.				Parkeville.....	4, 5	2.55	
Grand Coteau.....	27, 28	3.78	8.04	Grief.....	4, 5	2.15	
Luling.....	4	2.65	6.41	Brownsville *.....	16, 17	3.38	
Do.....	27	2.34		Paris *.....	16, 17	2.23	
New Orleans.....	27, 28	2.82		Texas.			
Monroe *.....	25, 26, 27	4.12		Belton *.....	13	2.00	
Opelousas *.....	23	2.30		Wenmar *.....	15	3.00	
Natchitoches *.....	27	2.32		Virginia.			
Lafayette *.....	16	2.51		Wytheville.....	5, 6	2.07	
Do *.....	27, 28	4.64		Lynchburg.....	4, 5	2.14	
				Norfolk.....	5, 6	2.15	

* "Cotton-belt stations," where observations were begun April 10th.

SLEET.

Sleet occurred in the various states and territories, as follows:

Alabama.—Birmingham, 6th.
Arkansas.—Lead Hill, 3d.
Colorado.—West Las Animas, 3d; Pike's Peak, 12th, 19th.
Dakota.—Fort Sisseton, 26th, 28th, 29th.
Indiana.—Laconia, 3d.
Kansas.—Fort Scott, 2d; El Dorado, 2d, 3d; Ninnescan, 3d.
Kentucky.—Louisville, 2d.
Maine.—Eastport, 6th, 7th; Bar Harbor, 7th.
Massachusetts.—Heath, 6th; Princeton, 6th, 7th.
Michigan.—Marquette, 24th.
Missouri.—Springfield, Centreville, and Lamar, 3d.
Nebraska.—Fort Niobrara, 25th, 28th.
New Jersey.—Clayton, 4th; Beverly, 4th, 5th.
New York.—Le Roy, Humphrey, and Rochester, 6th.
Ohio.—Wauseon, 1st.
Oregon.—Linkville, 1st.
Pennsylvania.—Wellsborough and Philadelphia, 4th; Fallington and Pittsburg, 5th.
Texas.—El Paso, 12th.

TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water observed at the several stations; the monthly ranges of water temperature; the average depth at which the observations were made; and the mean temperature of the air:

Temperature of water for April, 1886.

Station.	Temperature at bottom.		Range.	Average depth, feet and tenths.	Mean temperature of the air at station.
	Max.	Min.			
Atlantic City, New Jersey	55.9	41.8	14.1	9.5	48.0
Alpena, Michigan*	46.8	30.9	15.9	12.7	38.1
Augusta, Georgia	71.0	53.8	17.2	13.3	63.1
Baltimore, Maryland	63.3	44.8	18.5	10.3	54.6
Block Island, Rhode Island	47.5	36.5	11.0	8.1	45.2
Boston, Massachusetts	52.6	39.4	13.2	20.5	47.7
Buffalo, New York	53.7	38.1	15.6	9.6	46.3
Canby, Fort, Washington Ter	55.2	47.3	7.9	16.2	48.2
Cedar Keys, Florida	75.4	59.3	16.1	8.5	65.8
Charleston, South Carolina	68.9	58.7	10.2	38.0	62.4
Chicago, Illinois	53.7	35.6	18.1	8.1	49.1
Chincoteague, Virginia	63.1	46.8	16.3	3.2	51.9
Cleveland, Ohio*	57.7	35.3	22.4	14.0	49.1
Detroit, Michigan	51.3	32.3	19.0	26.8	50.6
Duluth, Minnesota					
Eastport, Maine	40.1	35.0	5.1	16.6	40.1
Escanaba, Michigan*	45.7	37.9	7.8	18.2	38.0
Galveston, Texas	75.0	59.3	15.7	13.0	66.5
Grand Haven, Michigan	66.0	36.6	29.4	19.0	47.3
Indianola, Texas†					
Jacksonville, Florida	75.7	64.0	11.7	18.0	66.5
Key West, Florida	81.0	75.3	5.7	19.5	74.5
Mackinaw City, Michigan*	37.9	33.2	4.7	10.0	38.0
Macon, Fort, North Carolina	67.8	57.5	10.3	10.8	60.6
Milwaukee, Wisconsin*	52.6	46.3	6.3	8.0	43.4
Mobile, Alabama	68.5	59.0	9.5	18.4	63.9
New Haven, Connecticut	54.0	39.0	5.0	16.6	48.3
New London, Connecticut	49.5	37.6	12.9	12.7	48.1
New York City	52.5	40.0	12.5	18.5	50.3
Norfolk, Virginia	62.7	47.2	15.5	15.8	56.1
Pensacola, Florida	70.9	61.2	8.7	17.8	65.3
Portland, Maine	48.4	35.8	12.6	16.1	44.7
Portland, Oregon	54.9	48.9	6.0	51.1	49.9
Sandusky, Ohio	61.0	33.8	27.2	10.8	48.3
Sandy Hook, New Jersey	51.3	37.5	13.8	12.3	48.7
San Francisco, California†					
Savannah, Georgia	70.3	55.1	15.2	10.1	64.7
Smithville, North Carolina	69.4	57.6	11.8	10.8	60.9
Toledo, Ohio	70.4	34.2	36.2	13.1	49.0
Wilmington, North Carolina	70.6	56.3	14.3	11.5	62.1

* Observations interrupted by ice; see text. † Observations temporarily suspended.

Observations were interrupted by ice throughout the month at Duluth, Minnesota. Observations were also interrupted by ice at Mackinaw City, Michigan, from the 1st to the 26th; Escanaba, Michigan, from the 1st to 25th; Alpena, Michigan, from the 1st to the 6th.

WINDS.

The most frequent directions of the wind during April, 1886, are shown on chart ii by the arrows flying with the wind; they are also given in the tables of miscellaneous meteorological data. In the Lake region, and along the Atlantic coast from Boston, Massachusetts, to Key West, Florida, the prevailing winds were mostly from the northeast; in the Gulf States

and southern half of the Mississippi Valley they were generally from the southeast; in the north Pacific coast region they were southerly, while along the coast of California they were north-westerly. In the Rocky Mountain districts they were variable.

HIGH WINDS.

[In miles per hour.]

Wind-velocities of fifty or more miles per hour were reported during the month, as follows:

Mount Washington, New Hampshire, 110, sw., 1st; 80, nw., 2d; 72, nw., 3d; 90, se., 6th; 53, se., 7th; 77, nw., 9th; 80, nw., 10th; 70, nw., 11th; 62, w., 12th; 60, nw., 13th; 56, nw., 21st; 50, w., 22d; 82, w., 23d; 78, w., 24th; 50, nw., 26th.

Pike's Peak, Colorado, 88, w., 7th; 54, sw., 18th; 52, nw., 26th; 64, w., 27th; 52, nw., 29th.

Cape Mendocino, California, 60, se., 1st; 57, se., 8th; 70, se., 9th; 56, se., 12th; 65, se., 14th; 65, se., 15th; 80, se., 16th.

Valentine, Nebraska, 52, s., 21st; 52, n., 25th; 50, n., 26th.

West Las Animas, Colorado, 50, s., 8th.

Dodge City, Kansas, 52, se., 22d.

Eastport, Maine, 70 (estimated), ne., 7th.

Boston, Massachusetts, 51, e., 6th.

Fort Maginnis, Montana, 62, nw., 15th.

Sandy Hook, New Jersey, 60, e., 6th.

Fort Elliott, Texas, 50, se., 23d.

LOCAL STORMS AND TORNADOES.

Los Angeles, California: a thunder-storm, with hail and high wind, passed over this place on the 11th. Considerable damage was done to the track of the Southern Pacific Railroad between Los Angeles and San Fernando, causing a delay of trains. A number of cellars were flooded. The grain crop suffered severely, being beaten down by the hail. This storm is reported to have been equally as severe at San Diego.

Abilene, Texas: a heavy thunder-storm, accompanied by hail, passed over this place on the 12th, lasting from 8.45 to 10 p. m. The ground was covered with hail, measuring from one-fourth to an inch in diameter. The wind being light, but little damage resulted from the storm.

Nicolaus, Sutter county, California: on the 13th, at 7.45 p. m., a heavy thunder-storm occurred, which is an unusual phenomenon for this place. The track of storm was about twelve miles wide. Five miles below here the precipitation was in the form of hail, which did not all melt until noon next day. Farmers report many wild geese picked up on the plains, killed either by hail or lightning.

Sauk Rapids, Saint Cloud, and Rice Station, Minnesota, and vicinity, were visited on the afternoon of the 14th, shortly after 4.00 p. m., by one of the most destructive tornadoes that has ever been reported in the Northwest. When first seen it was in the shape of a long and exceedingly black, funnel-shaped cloud, surrounded on all sides by perfectly clear sky, the tube of the funnel having a spiral shape and touching the ground. The general course of the tornado was from the southwest towards the northeast. When it had advanced until it was over the towns the air was so dark that it was impossible to see more than five feet.

The description below of the tornado as it appeared at Saint Cloud is given by an eye witness:

The tornado must have formed rapidly, and just about over the lake, as it was there when first noticed. It was very black, and seemed to be constantly in motion. It was moving rapidly across the lake when first seen, was flat and oval in shape, with a sort of spiral at each of the extremities, one extending upward and the other downward. It was peculiar in appearance, and I watched it closely. After having passed across the lake it seemed to stop. The movement resembled that of a fan opening and closing, and it remained stationary for some seconds. Almost instantly the form changed. Instead of lying flat, it seemed to turn on end and the spirals that ran up from the other end formed a part of a big double spiral. It had a movement that was peculiar, as if there was a commotion within it. The course was rapid and as soon as the big spiral was formed it began moving at a terrific rate in a course that was somewhat zigzag. It dropped down to the ground, and I saw the entire work of ruin. The course of the tornado after crossing the river was rather sinuous, though hardly as much so as before. It swept across the country, and in five minutes